

# 2SB1548A

## Silicon PNP epitaxial planar type

For power amplification

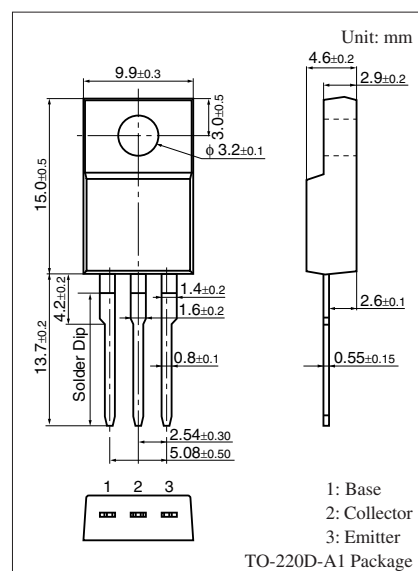
Complementary to 2SD2374A

### ■ Features

- High forward current transfer ratio  $h_{FE}$  which has satisfactory linearity
- Low collector-emitter saturation voltage  $V_{CE(sat)}$
- Full-pack package which can be installed to the heat sink with one screw

### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

| Parameter                                            | Symbol    | Rating      | Unit             |
|------------------------------------------------------|-----------|-------------|------------------|
| Collector-base voltage (Emitter open)                | $V_{CBO}$ | -80         | V                |
| Collector-emitter voltage (Base open)                | $V_{CEO}$ | -80         | V                |
| Emitter-base voltage (Collector open)                | $V_{EBO}$ | -5          | V                |
| Collector current                                    | $I_C$     | -3          | A                |
| Peak collector current                               | $I_{CP}$  | -5          | A                |
| Collector power dissipation $T_C = 25^\circ\text{C}$ | $P_C$     | 25          | W                |
|                                                      |           | 2           |                  |
| Junction temperature                                 | $T_j$     | 150         | $^\circ\text{C}$ |
| Storage temperature                                  | $T_{stg}$ | -55 to +150 | $^\circ\text{C}$ |



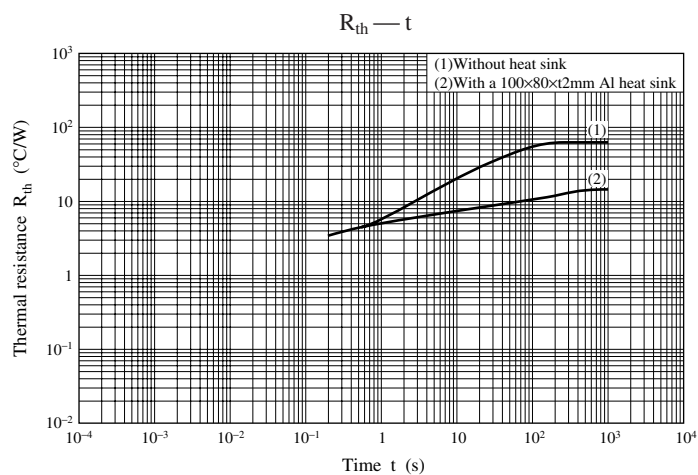
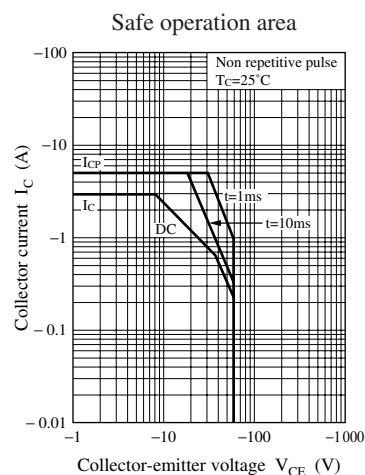
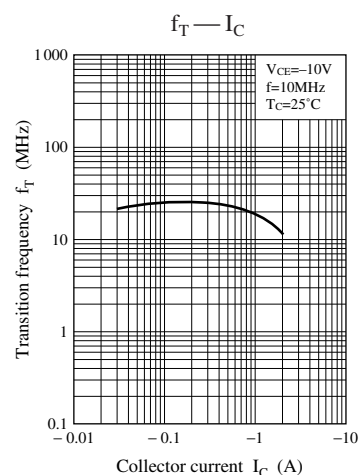
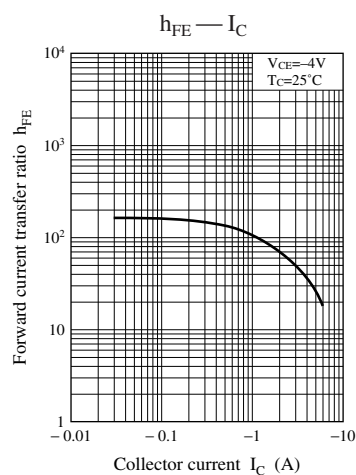
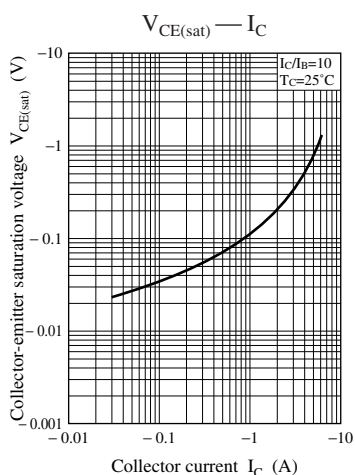
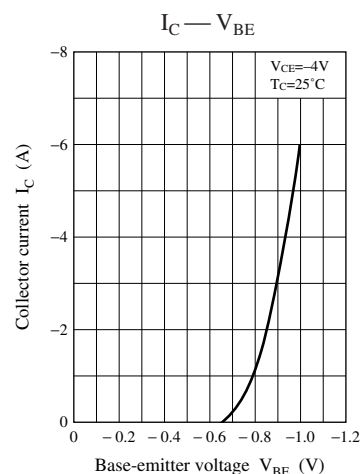
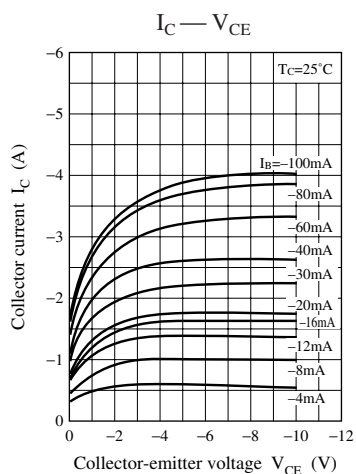
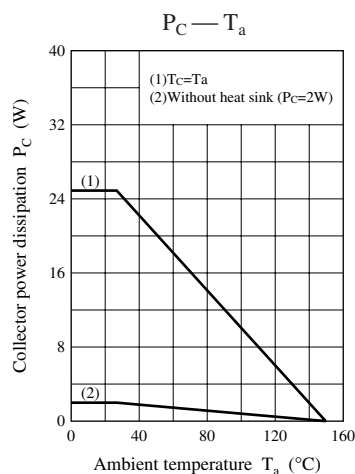
### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

| Parameter                                    | Symbol        | Conditions                                                                                          | Min | Typ | Max  | Unit          |
|----------------------------------------------|---------------|-----------------------------------------------------------------------------------------------------|-----|-----|------|---------------|
| Collector-emitter voltage (Base open)        | $V_{CEO}$     | $I_C = -30\text{ mA}$ , $I_B = 0$                                                                   | -80 |     |      | V             |
| Base-emitter voltage                         | $V_{BE}$      | $V_{CE} = -4\text{ V}$ , $I_C = -3\text{ A}$                                                        |     |     | -1.8 | V             |
| Collector-emitter cutoff current (E-B short) | $I_{CES}$     | $V_{CE} = -80\text{ V}$ , $V_{BE} = 0$                                                              |     |     | -200 | $\mu\text{A}$ |
| Collector-emitter cutoff current (Base open) | $I_{CEO}$     | $V_{CE} = -60\text{ V}$ , $I_B = 0$                                                                 |     |     | -300 | $\mu\text{A}$ |
| Emitter-base cutoff current (Collector open) | $I_{EBO}$     | $V_{EB} = -5\text{ V}$ , $I_C = 0$                                                                  |     |     | -1   | mA            |
| Forward current transfer ratio               | $h_{FE1}^*$   | $V_{CE} = -4\text{ V}$ , $I_C = -1\text{ A}$                                                        | 70  |     | 250  | —             |
|                                              | $h_{FE2}$     | $V_{CE} = -4\text{ V}$ , $I_C = -3\text{ A}$                                                        | 10  |     |      |               |
| Collector-emitter saturation voltage         | $V_{CE(sat)}$ | $I_C = -3\text{ A}$ , $I_B = -0.375\text{ A}$                                                       |     |     | -1.2 | V             |
| Transition frequency                         | $f_T$         | $V_{CE} = -10\text{ V}$ , $I_C = -0.5\text{ A}$ , $f = 10\text{ MHz}$                               |     | 30  |      | MHz           |
| Turn-on time                                 | $t_{on}$      | $I_C = -1\text{ A}$ , $I_{B1} = -0.1\text{ A}$ , $I_{B2} = 0.1\text{ A}$<br>$V_{CC} = -50\text{ V}$ |     | 0.5 |      | $\mu\text{s}$ |
| Storage time                                 | $t_{stg}$     |                                                                                                     |     | 1.2 |      | $\mu\text{s}$ |
| Fall time                                    | $t_f$         |                                                                                                     |     | 0.3 |      | $\mu\text{s}$ |

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. \*: Rank classification

| Rank      | Q         | P          |
|-----------|-----------|------------|
| $h_{FE1}$ | 70 to 150 | 120 to 250 |



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